THE ANATOMY OF THE INTESTINAL CANAL AND PERITONEUM IN MAN. THE HUNTERIAN LECTURES FOR 1885. By FREDERICK TREVES, F.R.C.S. 4to. antique, vellum, pp. 66, pl. iv. London: H. K. Lewis, 1885.

WE owe Mr. Treves an apology for so late a notice of his book. But, as though to atone for our tardiness, our welcome of the excellent work shall be even more than hearty. Our copy is really an *edition de luxe*, worthy of the author and publisher, and especially of the place and subject. John Hunter himself would feel honored by a brochure of such elegance and worth. We have noted a number of valuable facts observed, to some of which we will call attention.

Physicians certainly do not appreciate the process of growth of the intestine in infants. Hidden in the belly cavity, its silent but incessant activity is not appreciated. At birth the small intestine measures nine feet five inches in length. In the first thirty days of extrauterine life the growth is actually two feet or nearly one inch *per diem*, and the second month witnesses a similar growth. After that time the rate varies much. What a lesson this should teach doctors and mothers as to the simplicity, and regularity, and quality of the diet. With two such factors as this rapid growth and extraordinary functional activity in digestion, the dangers arising from indiscreet food are magnified fourfold. Indeed, the rapidity of growth of the entire body in the first year is far more than at any other period in life; almost eight inches are added to the length of the entire body and the intestine nearly doubles its length.

Mr. Treves next calls attention to the "*plica* and *fossa duodeno-jejunalis*," a fossa formed by a fold of serous membrane passing from the parietal peritoneum to the duodenum and the seat of retroperitóneal hernia, of which already nearly fifty examples are recorded. The careful description and multiple drawings of this fossa and fold are an excellent contribution to anatomy.

The position and relations of the small intestine and right half of the colon are very different in the fœtus and the adult. At first they have a common mesentery and consist of a simple loop supplied by the superior mesenteric artery. By a semi-rotation the colon crosses over the duodenum to reach the right hypochondrium, but the caput coli is as yet just under the then large liver and practically no vertical ascending colon and hepatic flexure exist. Gradually, as the liver shrinks, the cæcum sinks into its normal position, the oblique colon assumes its vertical and transverse positions as ascending and transverse colon, and the adult phase is established. This history explains not a few important practical points. Thus the cæcum is usually entirely covered by peritoneum and has no meso-cæcum; it lies on the psoas muscles and not the iliacus, and not seldom projects over or even falls into the pelvis; in eighteen per cent. of the cases it lay entirely within that cavity. With such a freely movable cæcum it is not suprising that it sometimes occupies the hernial sac —indeed, it is surprising that it does not protrude more frequently. So movable is it that in eleven per cent. the cæcum could be made to touch the liver and the left side of the pelvis, and in several cases it could be drawn down to the level of the great trochanter.

As Mr. Treves points out, it is an anatomical impossibility in inflammatory conditions of the cæcum to open the belly through the loin and reach the cæcum without opening the peritoneal cavity. Moreover, in a few cases the cæcum never does descend into its proper place, and in these cases there is no ascending colon—a fact not to be forgotten by the surgeon when considering the question of right lumbar colotomy, as already pointed out by Mr. Lockwood.

Mr. Treves's methods of study were excellent and painstaking. His book is based on the examination of one hundred bodies of those dying without known abdominal complications and each part was drawn *in situ* and later studied in detail. One method that bore but little fruit, but which shows the minute care he bestowed on his work—a model and a stimulus to many of our younger anatomists—was, on opening the belly, to attach a numbered brass tag to each coil of intestine, and later to study the position in the belly and distance from the pylorus of each tag, so as to establish (if any existed) the constant position in the belly of any particular part of the bowel. No such localization could be made out—a negative fact itself of value as precluding hereafter fanciful diagnosis based on such an assumption. Another practical point is the study of what coils of intestine occupy the pelvis. In the fœtus there are none, but they appear there soon after birth. Usually the impression is that only coils of the ileum occupy the pelvis, but Mr. Treves shows that that part of the intestine which has the longest mesentery—the part between two points, six and eleven feet from the duodenum—is not uncommonly found there. In two cases very nearly *all* the small intestine was found in the pelvis. And it is not uncommon to find the apex of a V- or U- shaped transverse colon in the pelvis. The bearing of these points in many cases of pelvic surgery and medicine is evident.

The sigmoid flexure seems to be a myth that Mr. Treves would sweep away, though we confess that his Fig. 21 A seems to justify the name at least. His iconoclasm is such that he says "the flexure does not occupy the iliac fossa, its mesocolon does not arise wholly from that fossa, its course is not that of either the letter S or the letter Σ, and the first part of the rectum is not disposed in the manner familiarly described." Most of our readers, we venture to think, in introducing a long tube by the rectum, after reaching the upper end of the rectum would direct the tip toward the left iliac fossa and endeavor to worm through an S-shaped gut in order to reach the descending colon. Mr. Treves describes and figures the bowel thus: Starting from the end of the descending colon the bowel crosses the psoas muscles, dips into the pelvis, then forms a loop to the right reaching as far as the right border of the pelvis and then descends to the third piece of the sacrum, where it loses its peritoneal covering, and properly becomes the rectum. The flexure in the fœtus and child is rather omega-shaped than like any other letter, and the flexure and the first part of the rectum, as usually described, form one curve of an average length in the adult of seventeen and one-half inches. He proposes, therefore, to limit the term rectum to that part of the bowel from the third piece of the sacrum to the anus; and, we think justly.

We have not alluded to several other points we had noted in a careful reading of this very interesting and practical book. It shows again—and the lesson cannot be too often repeated—that even in these later anatomical days a careful study of even the gross anatomy of any part of the body will well repay the time and labor bestowed, eliciting unknown facts, correcting unsuspected errors, and adding materially to the fame of the student himself. We regret not a little that, when studying so carefully the anatomy of the bowel, he did not investigate the *capacity* of the colon, with a view to determining the proper amount of fluid that could be injected. In "high injections" we often have injected nearly a gallon before any material pain was produced; but whether the whole colon was then filled or not, we are in great doubt.

W. W. K.

THE REFRACTION AND ACCOMMODATION OF THE EYE, AND THEIR ANOMALIES. By E. LANDOLT, M.D., Paris. Translated under the Author's supervision, by C. M. CULVER, M.A., M.D., Albany, N. Y. Octavo pp. xi. 600, with 147 illustrations. Edinburgh: Young J. Pentland, 1886.

IT would be difficult to consider this book without, to some extent, comparing it with the treatise of Donders. Though they are separated by a period of over twenty years, no work attempting the same combination of physics, physiology, and clinical experience, has appeared in the interval. Both deal with the same subjects, approaching them from similar points of view, both works were well written and have been very well translated; on most points they are equally clear for the student, equally safe for the practitioner. But, while the former was a recasting of the knowledge of the time, and a revelation of new fields for investigation and practice, the later work is little more than restatement of principles and facts well and generally understood, and confirmed by many observers. Indeed, what strikes one most forcibly on reading Landolt's good presentation of the present state of knowledge and practice in this direction, is the idea that it has taken the better informed and more enterprising part of the profession all this time to come to a full appreciation of what Donders taught; and there is a lingering suspicion that the appreciation is not yet complete.

The volume is divided into three parts, a "physical," a "theoretical," and a "clinical" portion. The first of these, the author says, "is specially devoted to those who take a particular interest in the scientific solution of the questions under consideration;" and "it is hoped, that the first chapter will enable the reader to dispense with other books on physics, as far as concerns the resolution of the most essential problems in ocular optics."

It does not take up all possible problems that might be considered in this connection; but, giving abundant references for the more abstruse and less practical, it sets forth in one hundred pages of clear, brief, rigorous, mathematical statement, the demonstrations of primary importance. For the thoroughly prepared student, this portion constitutes an admirably well-written text-book. But its easy understanding requires, at least, a very thorough training in elementary mathematics. The author says: "its perusal, however, may be entirely omitted; the reader may begin with the second chapter, in and after which he will find no formulæ, and yet will easily understand the meaning of the text." This seems com-